6160/6330/6400/6425 Power Supply

Operation Manual

Part Number: 95-00364-000

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6160/6330/6400/6425 Power Supply Manual

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Preface

Power Supply System Overview & Theory Of Operation

Operating The Power Supply

About This Manual

The information contained in this manual pertains solely to the 6160, 6330 , 6400 and 6425 power supplies and does not apply to any other product. This manual contains information about the safety symbols used on the product, theory of operation, and operating instructions.

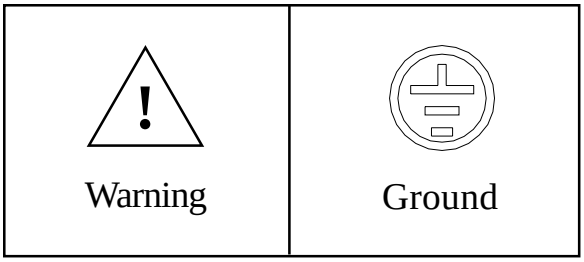
Safety Precautions

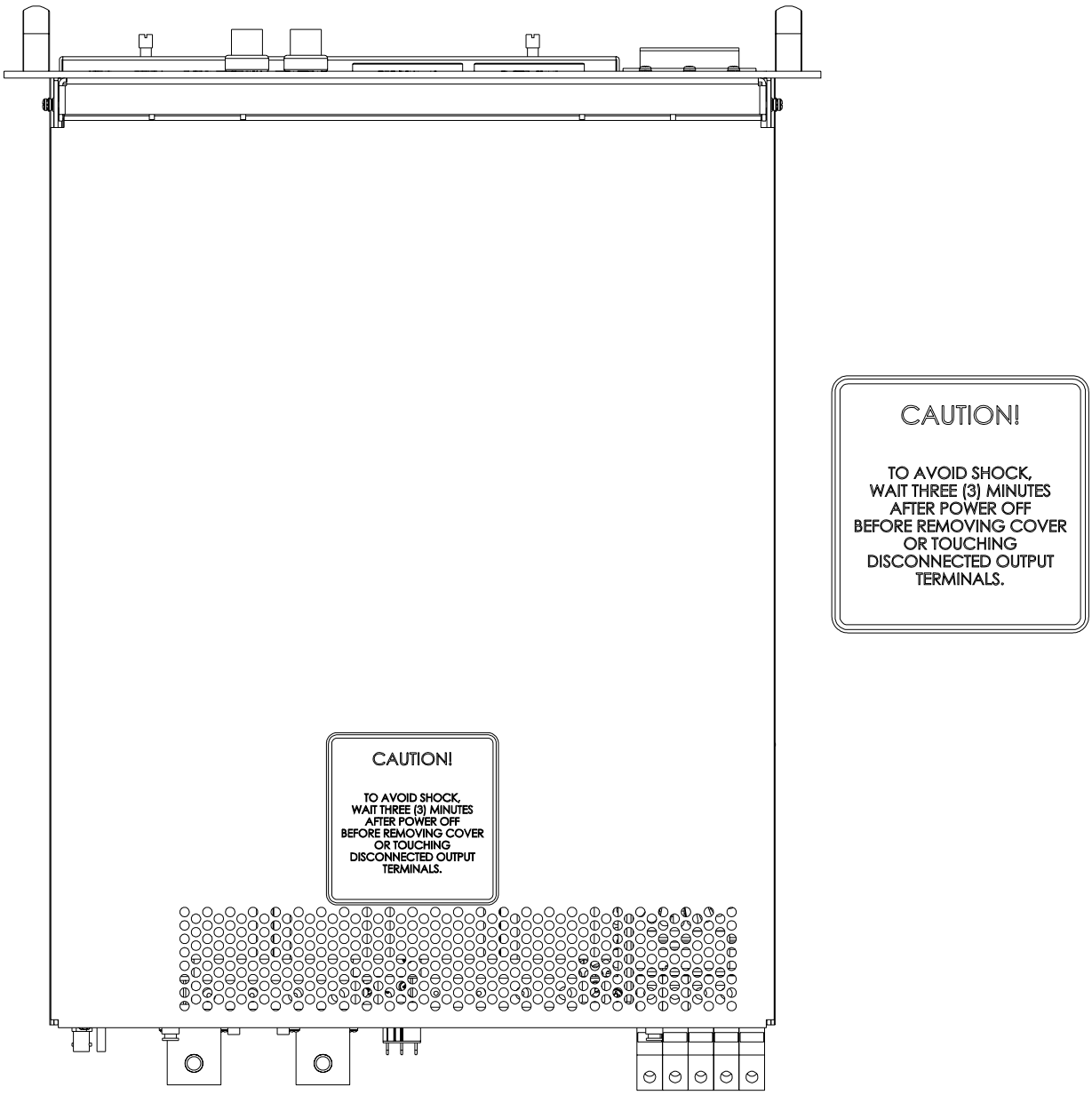
WARNING: Lethal Voltages Are Present!

All power supplies produce current and voltage levels that are dangerous and may potentially be fatal. Only qualified personnel who have read this manual and are familiar with the operation, hazards, and applications associated with proper use of power supplies should operate this device. Appropriate judgment pertaining to the proper and safe use of power supplies must always be exercised when operating this device.

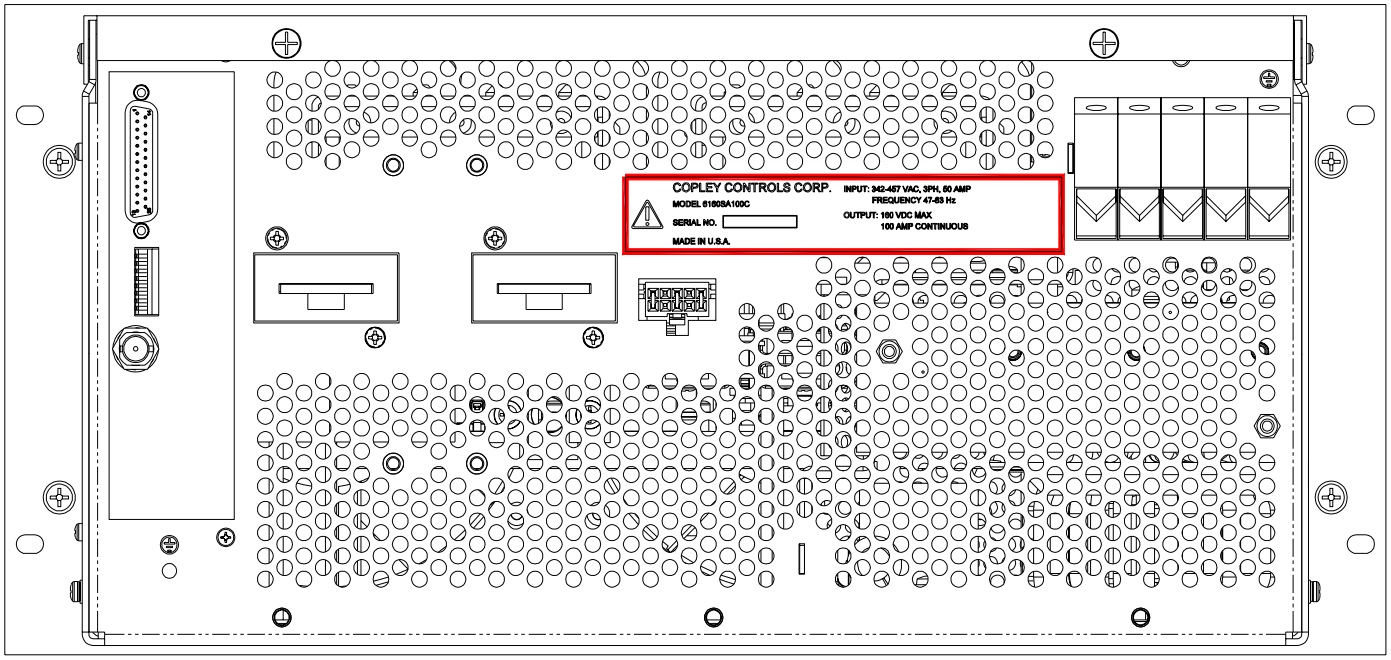
- Verify that all covers are in place and securely fastened before connecting the input power.
- Verify that the required grounding and cooling are provided for this device before connecting the input power.
- Proper grounding for the AC input power is required in order to reduce the risk of electric shock and to comply with safety agency requirements.
- Use caution when connecting the AC Power and only apply the input voltage specified on the label.
- Ensure all load capacitors are completely discharged before making or removing any connections to or from the power supply.
- Always replace fuses with the same type and Volt/Amp rating.
- Never attempt to operate the power supply in any manner not described in this manual
- Never remove DANGER or WARNING labels from the power supply. Immediately replace any lost or damaged labels.
- Only quailed personnel of Copley Controls Corporation should service the power supply

Description Of Safety Symbols Used On This Product





Top Panel Safety Label And Location



COPLEY CONTROLS CORP.
MODEL 6160SA100C
SERIAL NO.
MADE IN U.S.A.

INPUT: 342-457 VAC, 3PH, 50 AMP
FREQUENCY 47-63 Hz
OUTPUT: 160 VDC MAX
100 AMP CONTINUOUS

COPLEY CONTROLS CORP.
MODEL 6330SA61B
SERIAL NO.
MADE IN U.S.A.

INPUT: 180-250 VAC, 3PH, 100 AMP
FREQUENCY 47-63 Hz
OUTPUT: 330 VDC MAX
45 AMP CONTINUOUS
61 AMP PEAK

COPLEY CONTROLS CORP.
MODEL 6330SA61C
SERIAL NO.
MADE IN U.S.A.

INPUT: 342-457 VAC, 3PH, 50 AMP
FREQUENCY 47-63 Hz
OUTPUT: 330 VDC MAX
45 AMP CONTINUOUS
61 AMP PEAK

COPLEY CONTROLS CORP.
MODEL 6400SA47B
SERIAL NO.
MADE IN U.S.A.

INPUT: 180-250 VAC, 3PH, 100 AMP
FREQUENCY 47-63 Hz
OUTPUT: 400 VDC MAX
35 AMP CONTINUOUS
47 AMP PEAK

COPLEY CONTROLS CORP.
MODEL 6425SA47C
SERIAL NO.
MADE IN U.S.A.

INPUT: 342-457 VAC, 3PH, 50 AMP
FREQUENCY 47-63 Hz
OUTPUT: 425 VDC MAX
37 AMP CONTINUOUS
47 AMP PEAK

Back Panel Safety Label and Location

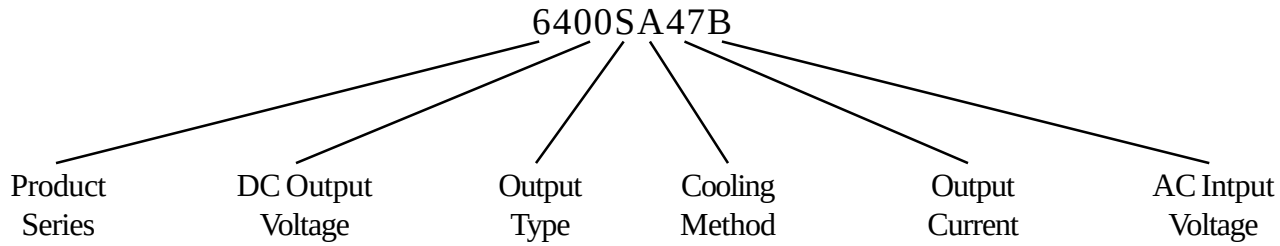
Intended Use Of This Product

The 6000 series power supplies are designed to operate with Copley amplifiers in a wide variety of industrial applications. The power supplies described in this manual are designed to operate in parallel (Master-Slave) supplying current equally. EMI requirements are to be met without reliance on external line filters.

The power supplies should only be used in a manner consistent with that which is outlined in this manual. Copley Controls Corporation is not responsible for any damage or injuries that occur if the power supplies are used in a manner other than that which is described in this manual.

Power Supply Model Number & Description

The model numbering convention used to identify Copley's power supplies contains a substantial amount of information, including: the product series, DC output voltage, output type (single or dual), power supply cooling method, output current, and the AC input voltage configuration. The following model number illustrates how Copley's naming convention works:



Product Series:
The first character, 6, represent the product series. In this case, it is in the 6000 series of power supplies.

DC Output Voltage:
The next three characters, 400, represent the DC Output Voltage. In this case it is 400 V DC. For the 6330 model, it would be 330 V DC.

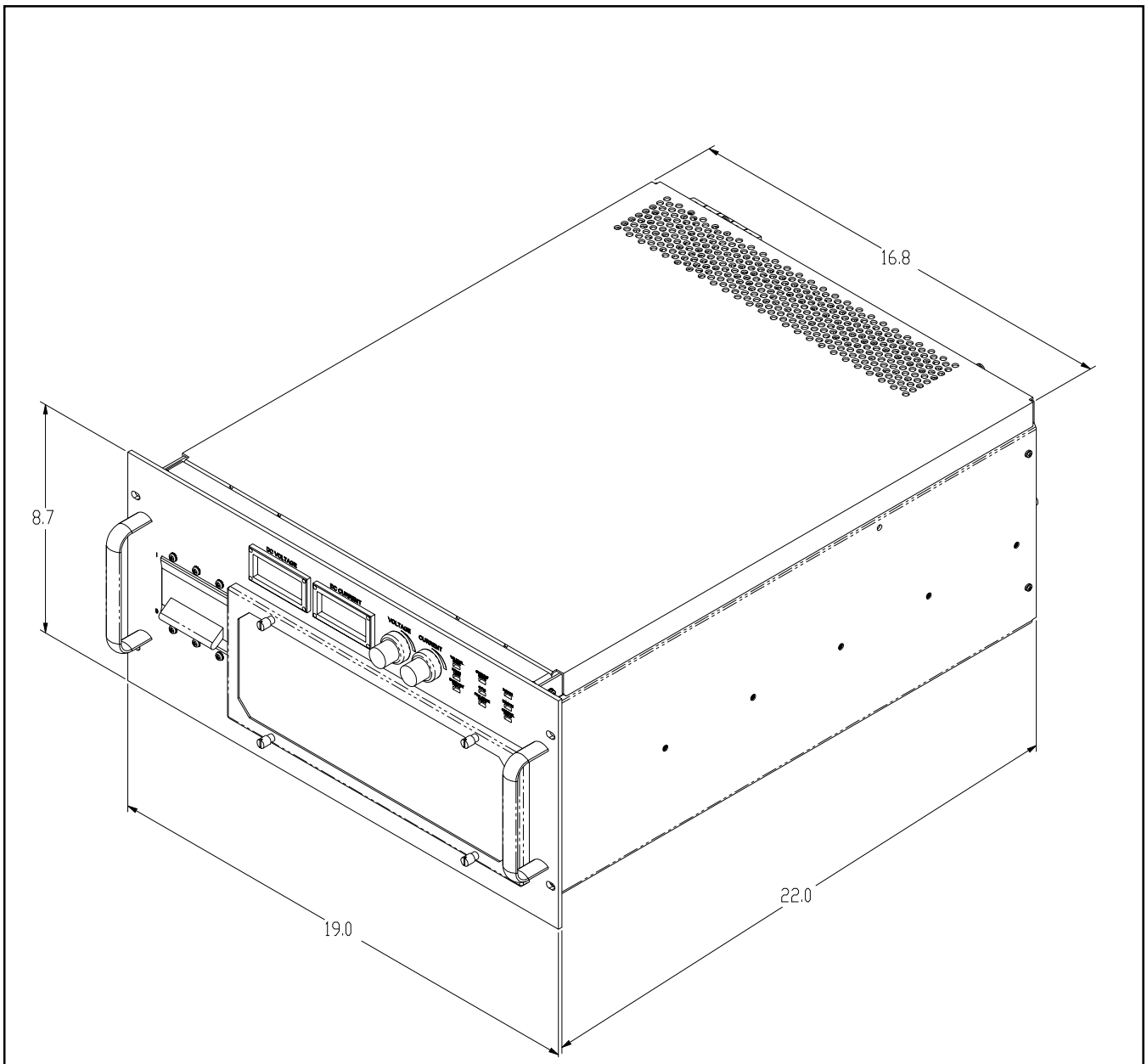
Output Type:
The fifth character, S, represents output type. In this case, S stands for single output; D stands for dual output.

Cooling Method:
The sixth character, A, represents the power supply's cooling method. In this case, A means the power supply is air cooled; W would mean the powers supply is water cooled.

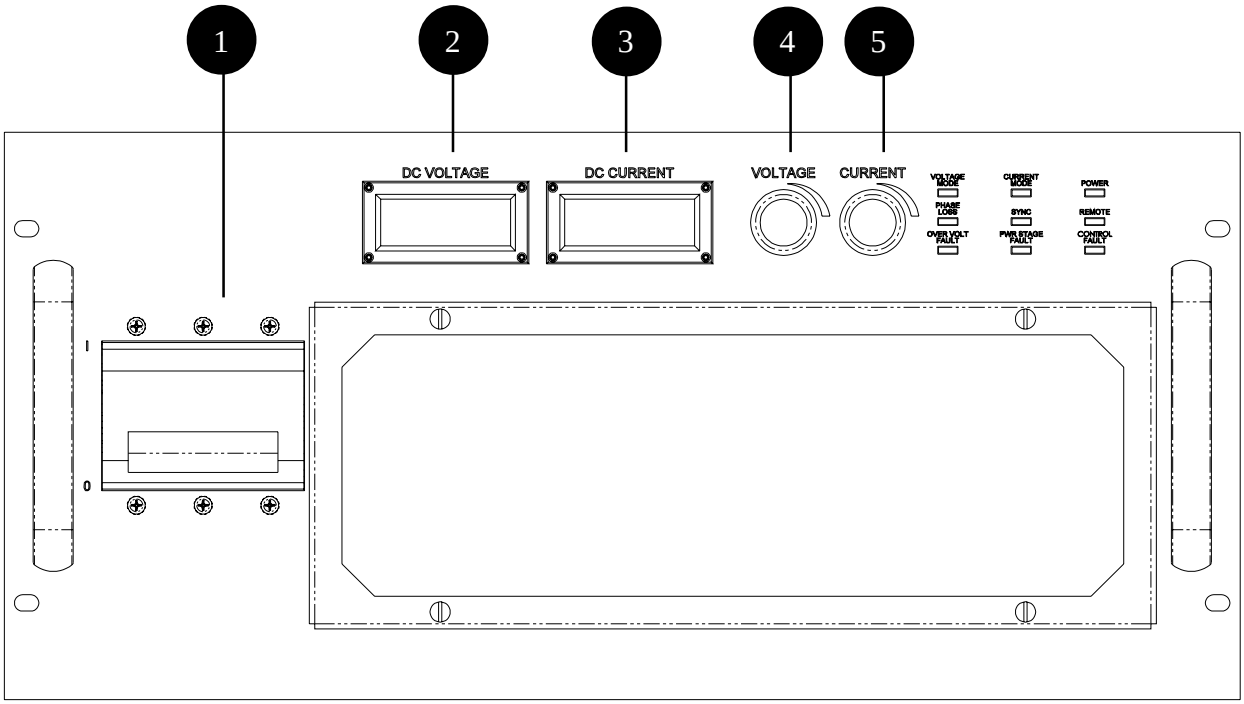
DC Output Current:
The seventh and eight characters, 47, represent the DC output current. In this case the DC current is 47 Amps.

Input Voltage Configuration:
The ninth character represents the input voltage configuration. In this case, B means input voltage configuration is 208 Volts (three phase). For information on additional input voltage configurations, refer to the table below:

Input Voltage Configuration		
Configuration	**Input Voltage**	**Phase**
A	220	Single
B	208	Three
C	380 to 400	Three
D	480	Three

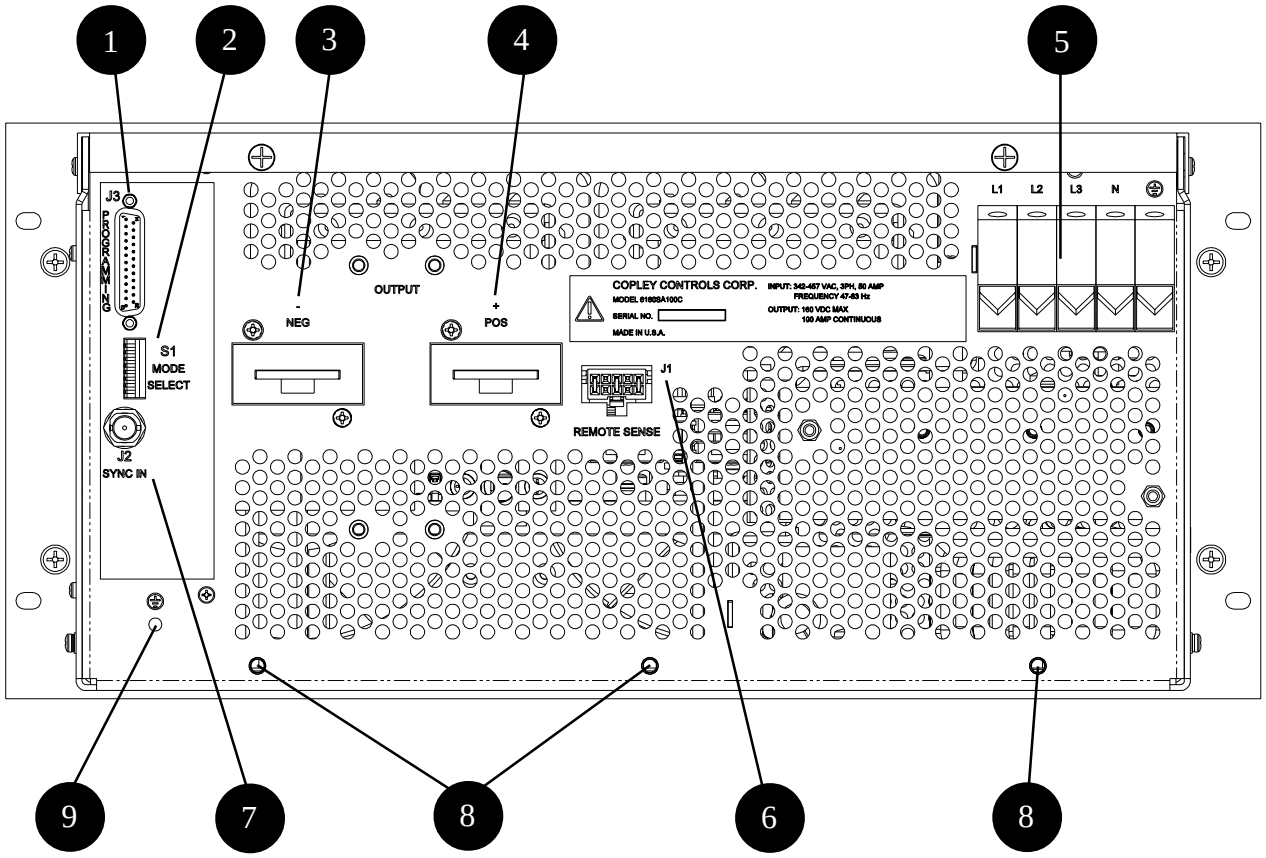


Power Supply Dimensions



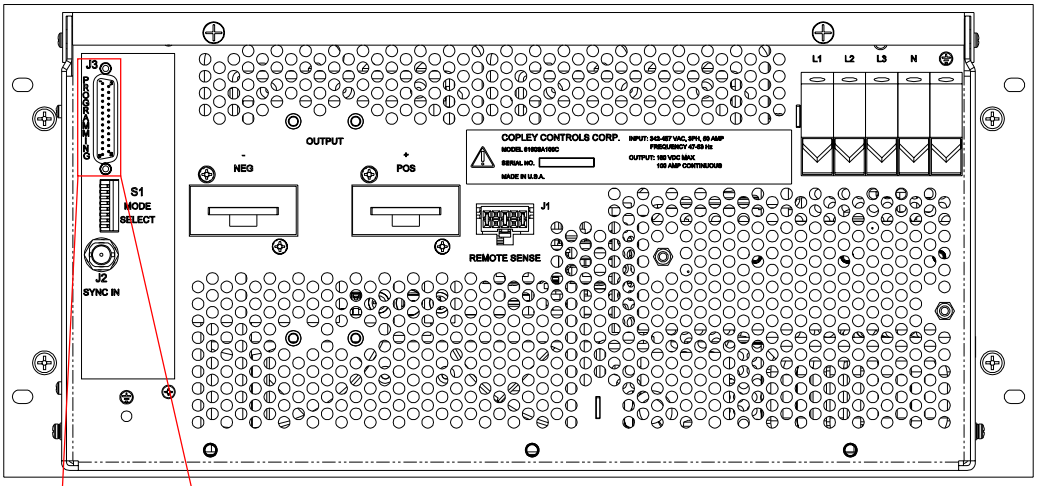
Power Supply Front Panel	
1	Circuit Breaker
2	DC Voltage Display
3	DC Current Display
4	Output Voltage Control Knob
5	Output Current Control Knob

Power Supply Front Panel

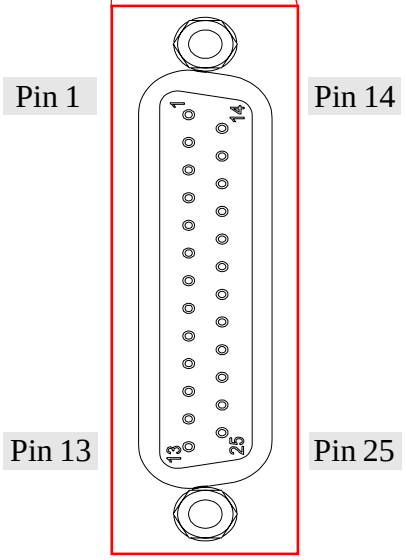


Power Supply Back Panel	
1	J3 Connector
2	DIP Switches
3	Negative Output Terminal
4	Positive Output Terminal
5	Temrinal Block (3-Phase AC Power; Neutral Not Used; Protective Safety Terminal
6	J1 Connector
7	J2 BNC Syn Input Connector
8	Mounting, M5 Thread
9	Protective Safety Terminal, M5 Thread

Power Supply Back Panel



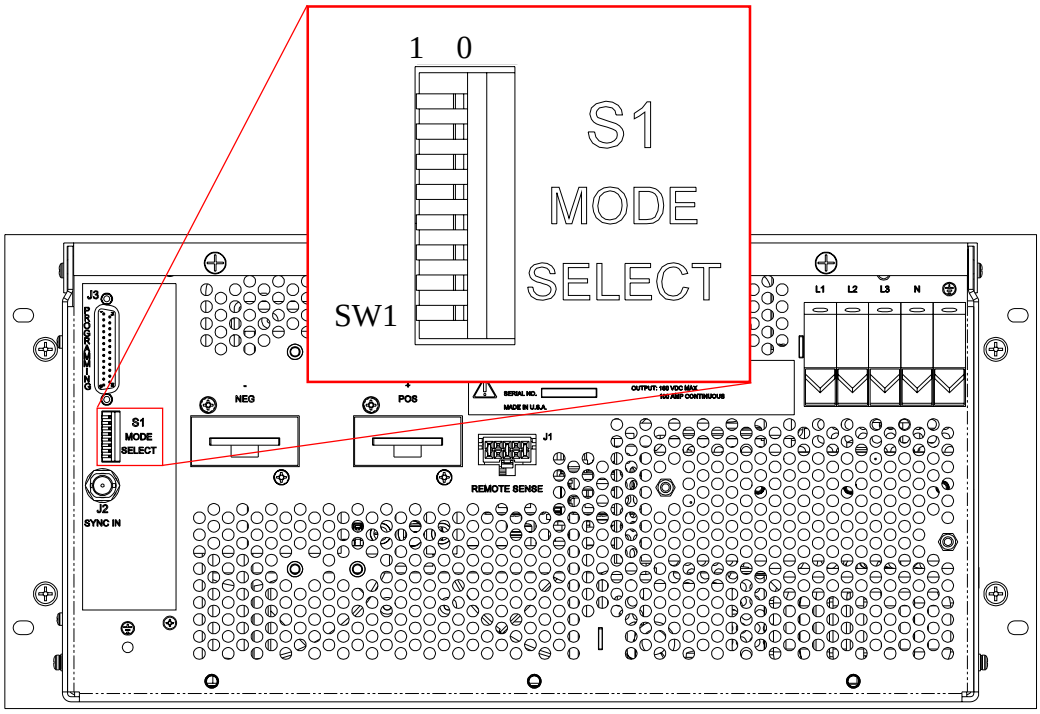
*CONTACT COPLEY CONTROLS



J3 Pin Connections	
Pin #	Pin Description
1	(OPTION)*
2	(OPTION)*
3	V Prog I
4	
5	V Prog R / V Prog V
6	AGND
7	AGND
8	AGND
9	
10	I Prog R / I Prog V
11	I Prog R / I Prog V
12	I Prog I
13	
14	Remote Voltage Turn On
15	Remote Voltage Switch
16	AGND
17	
18	
19	V Monitor Out
20	I Monitor Out
21	
22	Slave Current Input
23	Slave Current Reference
24	
25	

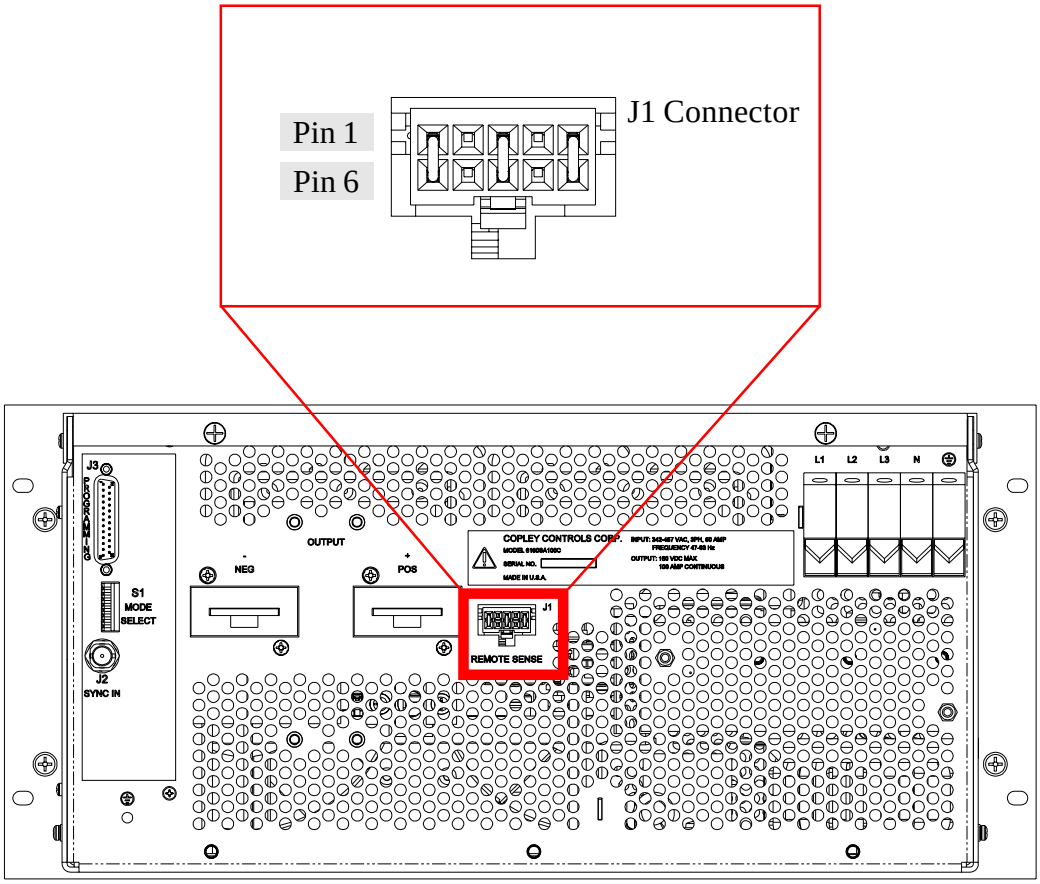
* Control circuit for discharge function

Back Panel J3 Connector Location & Pin Layout



Power Supply DIP Switch Settings								
MODE	**SW1**	**SW2**	**SW3**	**SW4**	**SW5**	**SW6**	**SW7**	**SW8**
Front panel control voltage	0	0						
Remote, V program. R	1	0						
Remote, V program. V	0	1						
Remote, V program. I	1	1						
Front panel control current			0	0	0	0		
Remote, I program R			1	0	0	0		
Remote, I program V			0	1	0	0		
Remote, I program I			1	1	0	0		
Master					0			
Slave					1			
Precision Input/ Danfysik (optional)						1		
Enabled							0	
Inhibit (enabled through J3 connector)							1	
78 - 82 kHz Sync Range								1
980 - 1020 kHz Sync Range								0
0 = Switch in down position		**1** = Switch in up position			**Blank** = Switch position does not matter			

Back Panel Dip Switch Locations & Configurations



J1 Pin Connections	
Pin #	Pin Description
3	V Out +
6	V Out -
8	V Remote +
1	V Remote -
5	Interlock 1
10	Interlock 2

For remote sensing, connect V Remote + to Load +, V Remote - to Load -, and J1-5 to J1-10.

When remote sensing is not used, connect J1-3 to J1-8, J1-6 to J1-1, and J1-5 to J1-10. The power supply ships with a mating connector for this configuration (Copley part number 59-00533-000).

Receptacle: Molex Minifit #39-01-2100
Female pin, crimp Molex # 39-00-0060

Back Panel J1 Remote Sense Connector Location & Pin Layout

Power Supply Specifications: Controls And Indicators

Power Supply Controls And Indicators	
Front Panel Indicators	All fault indicators latch whether or not the HV is inhibited
	Power On LED: Green
	Voltage Mode LED: Yellow
	Current Mode LED: Yellow
	Voltage Meter: LCD
	Current Meter: LCD
	Synchronized LED: Yellow
	Remote Control LED: Yellow
	Phase Loss LED: Red
	Power Module Failure LED: Red
	Circuit Board Fault LED: Red
	Over Voltage Fault LED: Red
Front Panel Controls	Breaker, Voltage Adjustment, Current Limit
Remote Sense	Optional by wiring a load. A separate high voltage connector is provided at the rear panel. Maximum line drop of 2% of the rated voltage per line.
DIP Switch Settings	The programming mode for the power supply is set by an eight bit dip switch, located on the control card accessible from the rear panel.
Scaled Output Voltage	A scaled version of the output voltage is available on the J3 Connector. This connector is is located on the control card and is accessible from the power supply rear panel. The scale factor is 5.0 Volts for maximum rated output voltage.
Scaled Output Current	A scaled version of the output current is available on the J3 Connector. This connector is is located on the control card and is accessible from the power supply rear panel. The scale factor is 5.0 Volts for full maximum rated output current. The 6400 SA47B is an exception; 5 Volts for 37.5 A dc.
External Inhibit	An external inhibit input is available on the J3 connector. This connector is is located on the control card and is accessible from the power supply rear panel.

Power Supply Specifications: Input And Output Voltage Requirements

Input Voltage Requirements		
	6XXXXXXB	6XXXXXXC
Nominal 3-Phase	208 VAC/220 VAC +/- 10%	380/400 VAC +/- 10%
Operating Range	180 VAC - 250 VAC (tested)	342 VAC - 475 VAC Tested
Frequency	47-63 Hz	47 63 Hz
Configuration	**4 wire:** 3 phase "Y" plus Safety Ground (Neutral not used; connecting point is provided at the back of the power supply). **3 wire:** delta, corner grounded	**4 wire:** 3 phase "Y" plus Safety Ground (Neutral not used; connecting point is provided at the back of the power supply).
Max. current per phase @ 208 VAC (20 kW)	100 A RMS	50 A RMS
Power Factor	> 0.8	> 0.8
Line Surge Turn-On	25 A Peak Max.	50 A Peak Max.

Output Voltage and Current Specification					
Model Number	**6330SA61B**	**6400SA47B**	**6160SA100C**	**6330SA61C**	**6424SA47C**
Full Rated DC Voltage	330 Volts	400 Volts	160 Volts	330 Volts	425 Volts
Full Rated DC Current	61 Amps	50 Amps	100 Amps	61 Amps	50 Amps
Output Voltage Scale Factor (J3 connector)	0.0152 V / V	0.0125 V / V	0.031 V / V	0.0152 V / V	0.0118 V / V
Output Current Scale Factor (J3 connector)	0.082 V / A	0.133 V / A	0.050 V / A	0.082 V / A	0.100 V / A
Over Voltage Shutdown	347 Volts	420 Volts	175 Volts	347 Volts	446 Volts

Power Supply Specifications: Output Power Requirements

The power supply must be operable with either the positive or negative terminal grounded. The feedback stability should be optimized for a 0.2F load capacitance when two supplies are connected in parallel.

Output Power Requirements	
Parellel operation	Designed for up to five power supplies in parellel configuration. Master and slave DIP switch selections are set on the rear panel.
Output Voltage Range	Zero to full rated DC voltage
Output Power	20 KW / 15 KW Exception 616SA100C 16 KW
Extra High Current (EHC)	This mode allows up to 20 KW to be drawn from the power supply for a limited time - until the critical temperature is reached within the amplifier. Exception 616SA100C 16 KW
Max. Output Current	Output short circuit protected by the control circuitry. For more information, refer to the Output Voltage and Current Specification Table.
Load Pulses	May occur in the DC to 2 K Hz range.
Ripple Voltage at Switch Frequency	300 mv p-p at full load with 0.2 F capacitor.
Switching Frequency	41 K Hz
Voltage Load Regulation	0.5%, 0 Amps to 50 Amps or 50 Amps to 0 Amps; below 50 V 3%
Voltage Line Regulation	0.3%, 342 to 457 V AC or 457 to 342 V AC

Power Supply Specifications: Protective Circuits

Protective Circuits	
Crowbar	There is no crowbar circuit installed
Thermal	Thermal shutdown occurs when heat sink temperature reached 75 Degrees Celsius.
Over Voltage Protection (OVP)	Factory set at 1.05 x voltage rating +/- 1% Exception 616SA100C (See Output Filter and Output Current Specification Table)

Power Supply Specifications: Remote Programming

Remote Programming	
Accuracy	
Constant Voltage	+/- 0.25% of full scale output
Constant Current	+/- 2% of full scale output
Resistance	
Constant Voltage (0 to 100%)	0-5 K Ohms
Constant Current (0 to 100%)	0-5 K Ohms
Voltage	
Constant Voltage (0 to 100%)	0 to 5 Volts DC
Constant Current (0 to 100%)	0 to 5 Volts DC
Current	
Constant Voltage (0 to 100%)	0 to 1 MA
Constant Current (0 to 100%)	0 to 1 MA
External Sync	80 KHz or 1 MHz +/- 1% 5 V CMOS logic input through an isolator BNC connector. Loading 12 ma max to opto isolator (for each power supply). Capture range 980 to 1020 kHz min or 78 to 82 kHz min.

Power Supply Specifications: Mechanical

Mechanical Specifications	
Height	8.7" (5 "U" units of 1.75 inch)
Width	19.0" nominal (panel), 16.875 +/- 0.125" (chassis)
Depth	22.00 +/- 0.125" excluding rear terminal and front panels
Weight	84 pounds (38 kg)
Cooling Air	From front to back
Output Terminals	Bus bar with M8-1.25 threaded insert
Rack Slides	Drill for General devices CTS-124 slides
Color	Copley Light Grey (Fed Std 595 #26493) and logo (front panel only)

Power Supply Specifications: Environmental

Environmental Specifications	
Operating Temperature	10 to 50 degrees Celsius at full power (15 kW)
Rate Of Temperature Change	< 0.5 degrees Celsius / min
Humidity, Noncondensing	15 to 90 % relative
Magnetic Fields DC susceptibility	0 to 50 Gauss
Magnetic Fields AC susceptibility	5 Gauss at 0.005 to 5 k Hz
Storage and Transport Conditions	
Temperature	- 25 to 75 degrees Celsius
Humidity	5 to 100% relative
Pressure	25 to 110 k Pa (100 kPa = 1000 mBAR = 980 mm Hg)

Theory of Operation

The design of the power supply is optimized for operation with a large capacitive load followed by switching amplifiers typically found in MRI gradient systems.

Power Flow (refer to the power supply block diagram on page 28 for more information)

The power supply back panel contains a **Terminal Block**. Three phase AC power enters the power supply through the terminal block. The terminal block contains a connection for each of the three phases and ground. A connection is also provided for neutral, which is not used internally by the power supply.

The three phase power passes through a shielded EMI filter. This filter contains X2 type capacitors across the phases followed by a three phase inductor. A second capacitor assembly contains additional X2 type capacitors across the phases as well Y1 type capacitors from phase to chassis (ground). A second three phase inductor connects the AC power to the line side of the three pole breaker mounted on the front panel.

The load side of the breaker is connected to a three phase rectifier mounted on the **Power Driver Board.** The positive side of the rectified voltage is connected to a surge resistor shunted by a thyrsitor. The surge resistor limits the inrush current, after which the thyristor is turned on. The rectified voltage is filtered by differential inductors in the positive and negative legs, followed by aluminum electrolytic capacitors across the inductors.

Also contained on the Power Driver Board is zero voltage and zero current (**ZVZCS**) full bridge pulse width modulated (**PWM**) converter. The primary winding of a power transformer is connected across the outputs of the full bridge. This power stage converts the filtered rectified AC power to an isolated secondary voltage, which is then rectified and filtered. The output filter consists of a differential inductor followed by **an Output Filter Board** containing an aluminum capacitor and several film capacitors. The DC voltage **Output Bus Bars** extend from the output filter board and exit at the back panel of the power supply.

Power Driver Board

The output voltage is regulated using phase shift **PWM** control. The full bridge converter is implemented using two dual IGBT modules. The output of each IGBT module is a square wave. The duty cycle across the transformer's primary winding is controlled by changing the effective phase between the two square waves. Two auxiliary circuits are used to provide **ZVZCS** (zero voltage zero current switching) operation of the IGBT modules. The **ZVZCS** means mixed operation of **ZVS** for the one module (leading-leg) and **ZCS** for the other module (lagging-leg). The advantage of this topology is lower switching losses in the IGBT modules.

Other functions contained on this board are:

Driver circuitry providing transformer isolated gate drive for the IGBT. The input signals for the driver originate on the **Control Board.**

A converter (DC to DC) generates the low level isolated voltages for the control circuitry and 28V for the cooling fans. The topology is a multi output discontinuous flyback. A signal from the control board synchronizes this converter.

The following fault detection circuits are contained on this board:

1. A loss of phase detector monitoring the three phase AC input.

2. An over voltage detector monitoring the rectified line voltage.

3. An out-of-tolerance detector monitoring the following DC outputs: +5Vdc, +15Vdc, and -15V DC.

The fault signals are sent to the **Control Board**. The full bridge power stage is shut down if a fault condition is detected.

Output Filter Board

A DC current sensor located on the output filter board monitors the inductor current prior to the capacitive filter. The output voltage and the remote voltage (if used) are sensed with high voltage resistors. These signals are sent to the **Control Board**.

Control Board

Feedback signals sent from the power driver and the output filter boards are used to generate drive signals for the main converter. A replica of the output inductor is used for an average current mode control inner loop. A reference is compared to the inductor current and the difference is amplified. This error signal is compared to a large amplitude sawtooth (oscillator ramp) at the PWM comparator inputs. The reference signal is either the desired output current (in current mode) or an error signal for the output voltage (voltage mode). The outer voltage feedback loop is used to regulate the output voltage. A small amount of additional current feedback is added to the voltage feedback error signal, providing a small value of source resistance. The transient response into a high capacitive load is greatly improved by the additional source resistance, and the load regulation is only slightly degraded. The logic circuits contained in an EPLD change the PWM signal to two phase controlled square waves. The leading edge of the squares waves is further modulated by a feedback loop using a replica of the primary transformer current. This loop prevents saturation, allowing the primary winding to be connected directly across the full bridge..

Additional monitoring and fault detection circuitry includes:

1. Comparators that monitor the DC output voltage. Should the output voltage exceed 5% of it's rating, the main converter will be shutdown

2. Heat sink temperature is monitored. If the temperature exceeds 63°C, the output current is reduced from a 20KW rating to a 15KW rating. Should an abnormal condition cause the heat sink temperature to exceed 75°C the main converter shuts down.

A **PLL** (digital phase lock loop) is implemented in the fault EPLD. A BNC terminal on the Control Board, accessible on the rear panel, is provided. The PLL allows the converter to be synchronized with an external signal.

Operating Instructions

The power supply may either be controlled locally or remotely, allowing it to be integrated into a variety of industrial applications. During local operation, the power supply output is determined by the front panel controls. In remote operation, an external device determines the input current or voltage signal sent to the J3 connector, establishing power supply output.

Local Operation:

In local operation, the power supply output voltage and current are determined by the front panel controls. In this operating mode, the power supply is configured to deliver constant voltage, constant current, and local sensing. This is the standard configuration for the power supply when it is shipped from the manufacturing facility. In order for the power supply to operate in this configuration, the J1 connector provided with the power supply must be installed.

Remote Sensing Operation:

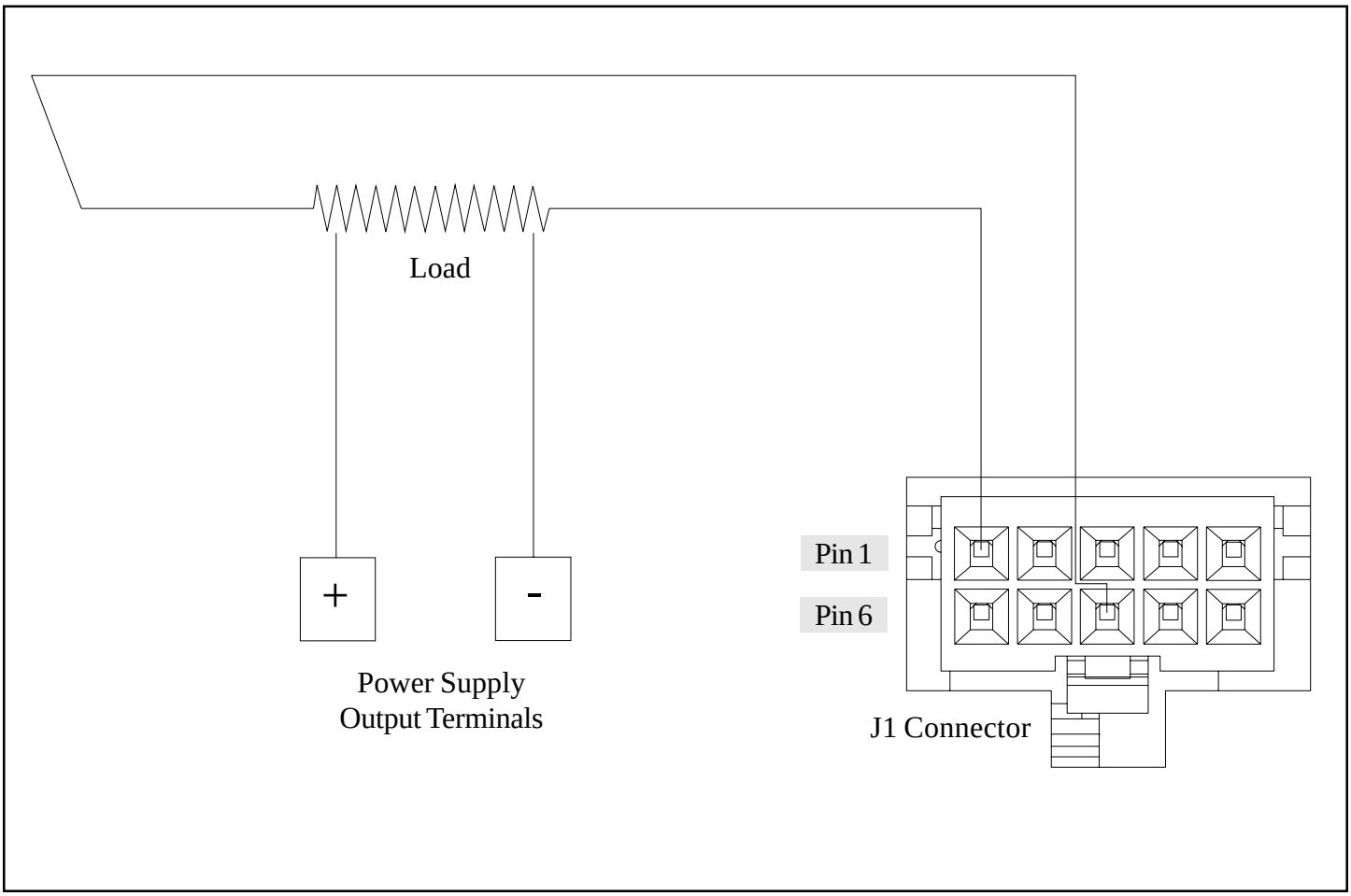
In remote sensing operation, the voltage across the load is regulated (not the power supply output voltage). This operation mode should be used in applications where voltage loss associated with line impedance provides problems.

Connect the power supply for remote voltage sensing as follows:

1. Connect the positive load sensing lead to pin 1 of the J1 connector.

2. Connect the negative load sensing lead to pin 8 of the J1 connector.

3. Connect the interlock from pin 5 to pin 10 of the J1 connector.



It is recommended that high voltage twisted shield wire is used to avoid potential noise. When the power supply is operating in remote sense, the voltage at the output terminals may be greater than the regulated load voltage. Should this voltage exceed the fixed overvoltage set point, the power supply will shut down and the Overvoltage fault LED will illuminate.

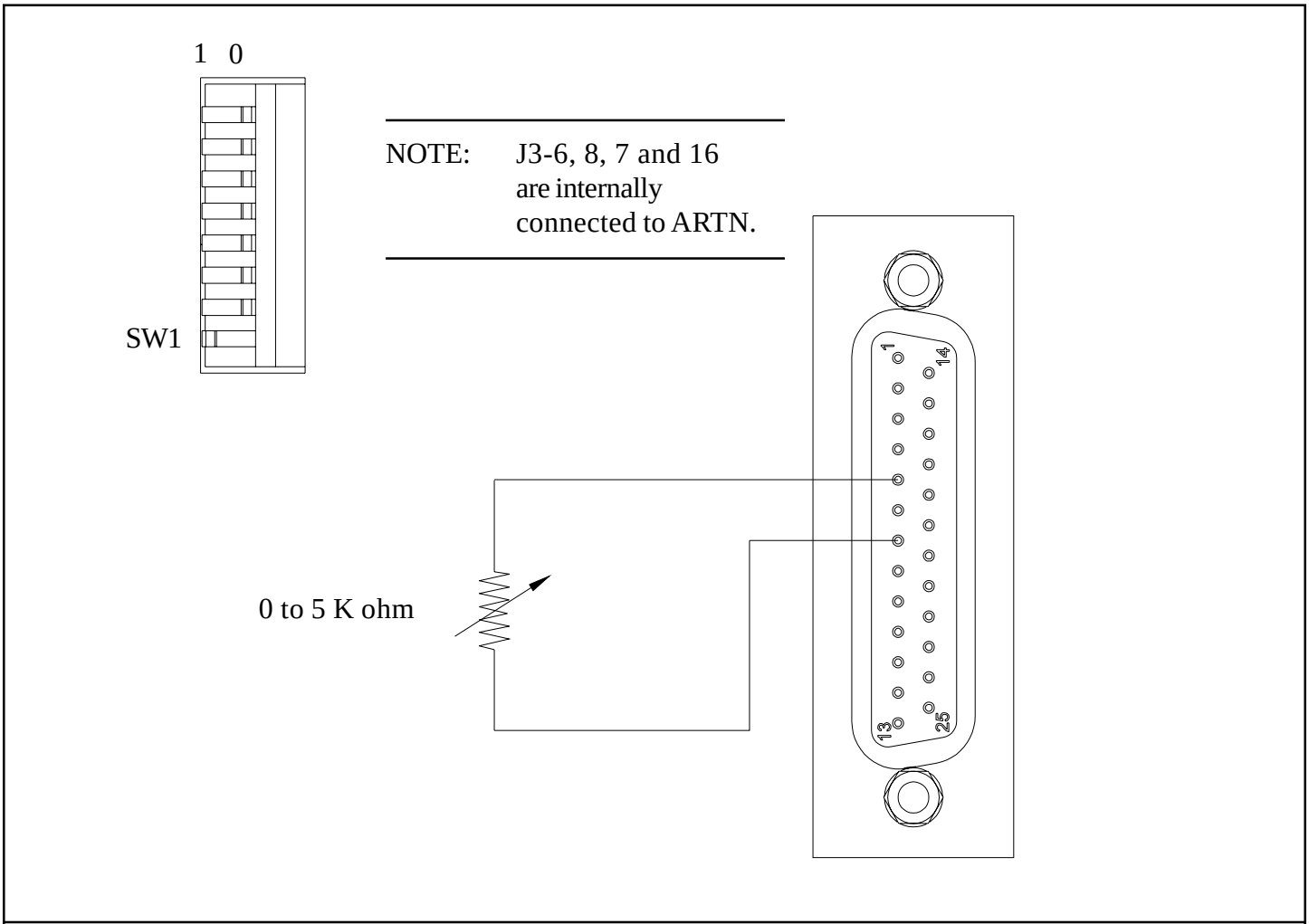
Remote Resistance Operation:

In remote resistance operation, an external resistor is used to control the power supply output. You may control the resistance to either the voltage or the current channel on the J3 connector.

Remotely Controlling Resistance To The J3 Voltage Channel

In this configuration, an external resistor is used to control the power supply output voltage from zero to maximum voltage output. In this application, a **5.0 K Ohm** resistor produces **maximum voltage output.**
The front panel current control knob remains active.

The DIP switch settings shown below disable the front panel voltage control knob. The front panel current control knob remains active.

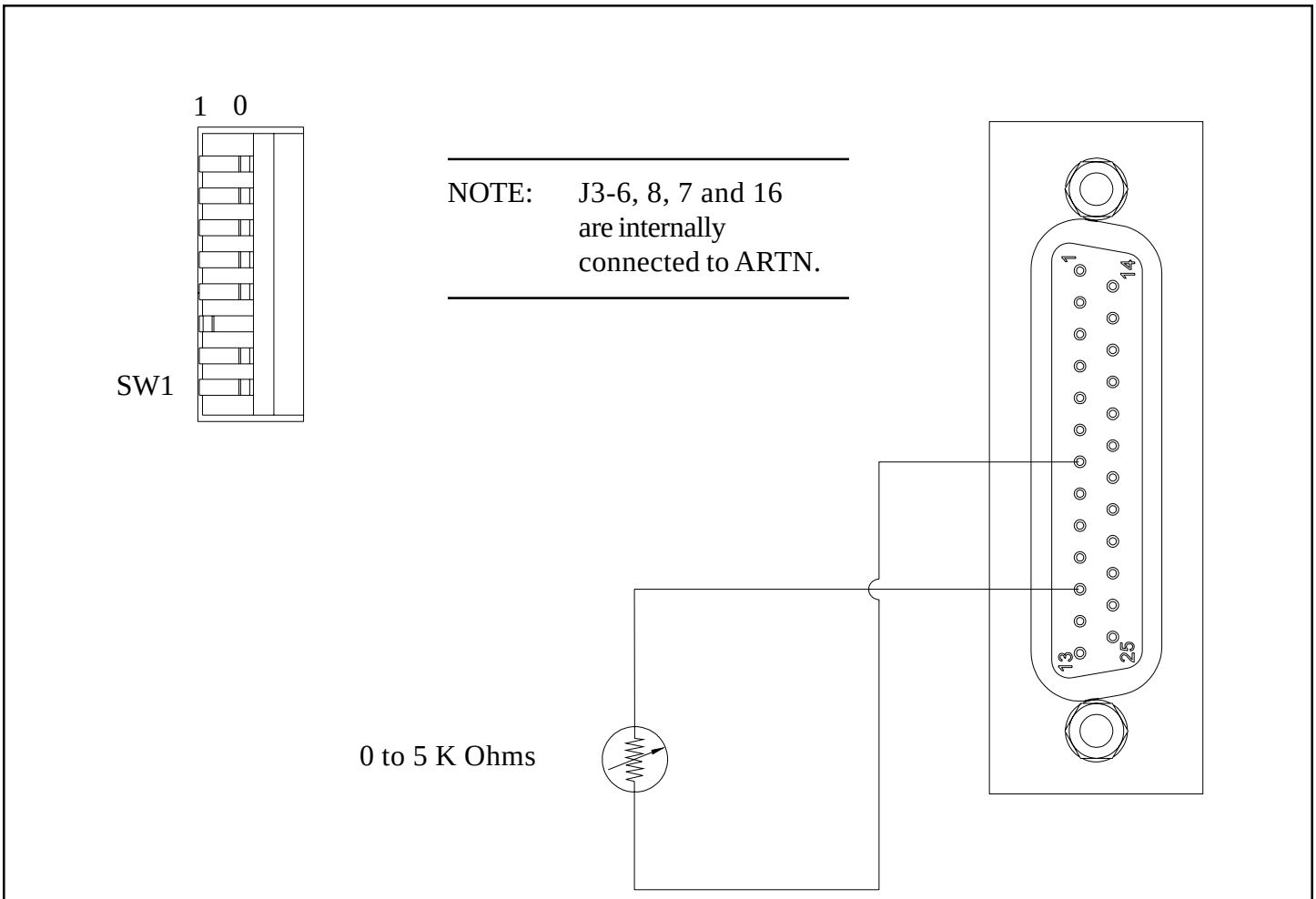


Remote Voltage Programming Using Resistance

Remotely Controlling Resistance To The J3 Current Channel

In this configuration, an external resistor is used to control the power supply output voltage from zero to maximum voltage output. In this application, a **5 K Ohm** resistance produces **maximum voltage output.**

The DIP switch selections shown below disable the front panel current control knob. The front panel voltage control knob remains active.



Remote Current Programming Using Resistance

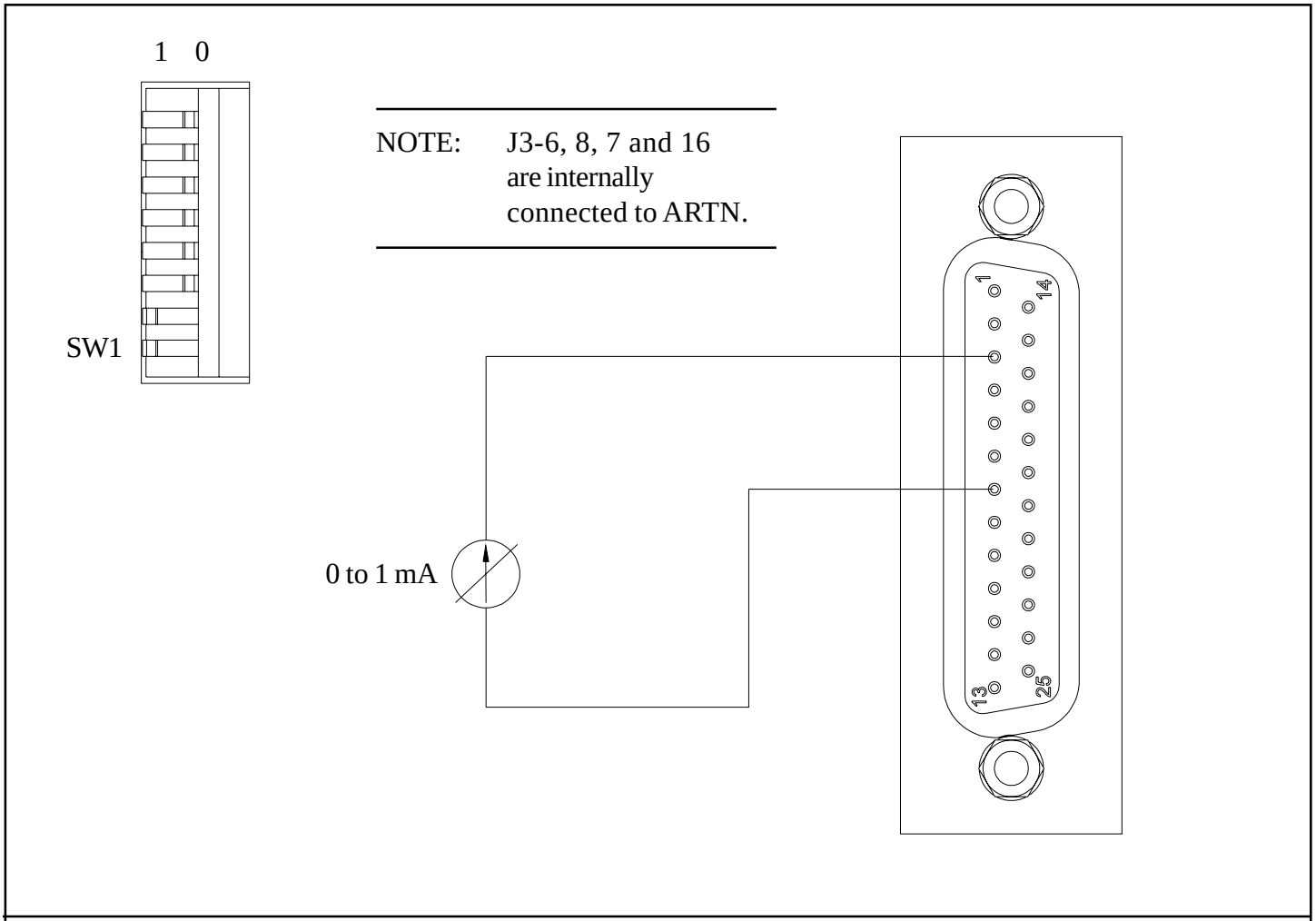
Remote Current Operation:

In remote current operation, an external current source is used to control the power supply output. You may control the input current to either the voltage channel on the J3 connector or the current channel on the J1 connector.

Remotely Controlling Current To The J3 Voltage Channel

In this configuration, an external current source is used to control the power supply output voltage from zero to maximum voltage output. When the power supply operates in this configuration, a **1 mA input** signal produces **maximum voltage output**.

The DIP switch settings shown below disable the front panel voltage control knob. The front panel current control knob remains active.

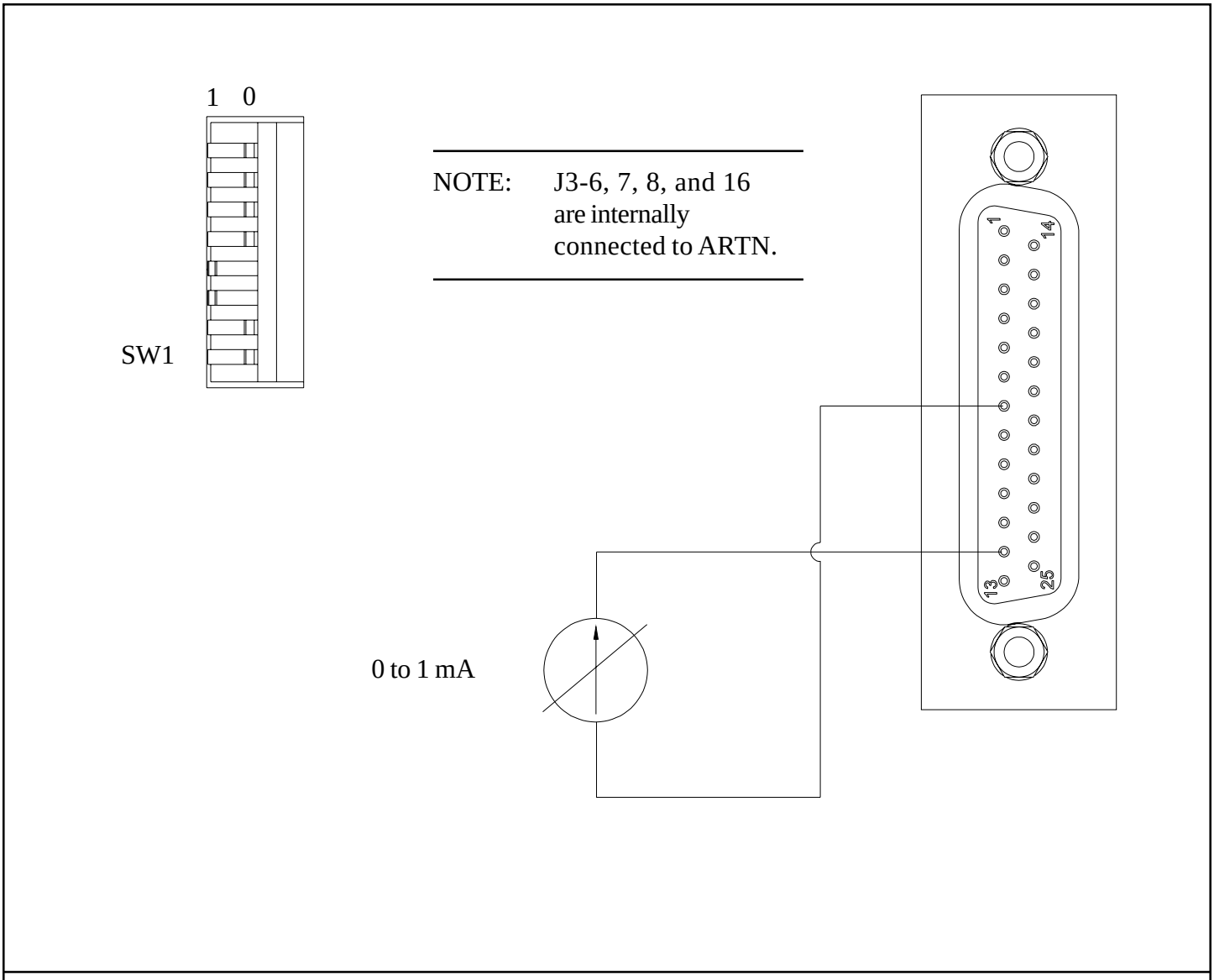


Remote Voltage Programming Using A Zero to One mA Current Source

Remotely Controlling Current To The J3 Current Channel

In this configuration, an external current source is used to control the power supply output current from zero to maximum current output. When the power supply operates in this configuration, a **1 mA input** signal produces **maximum current output**.

The DIP switch settings shown below disable the front panel current control knob. The front panel voltage control knob remains active.



Remote Current Programming Using A Zero to One mA Current Source

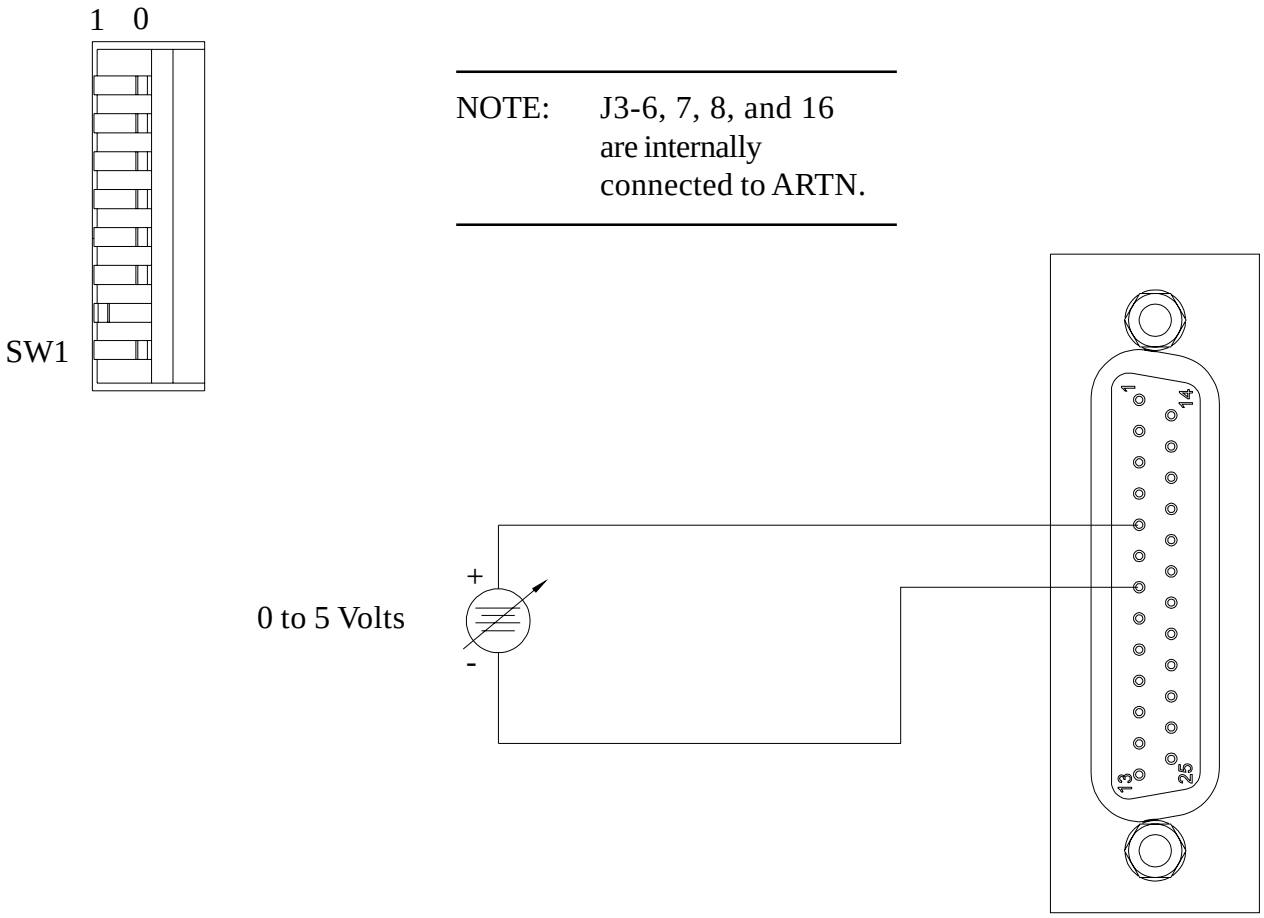
Remote Voltage Operation

In remote voltage operation, an external voltage source is used to control the power supply output. You may control the input voltage to either the voltage channel on the J3 connector or the current channel on the J3 connector.

Remotely Controlling Voltage To The J3 Voltage Channel

In this configuration, an external voltage source is used to control the power supply output voltage from zero to maximum voltage output. In this application, a **5 volt input** signal produces **maximum voltage output.**

The DIP switch selections shown below disable the front panel voltage control knob. The front panel current control knob remains active.

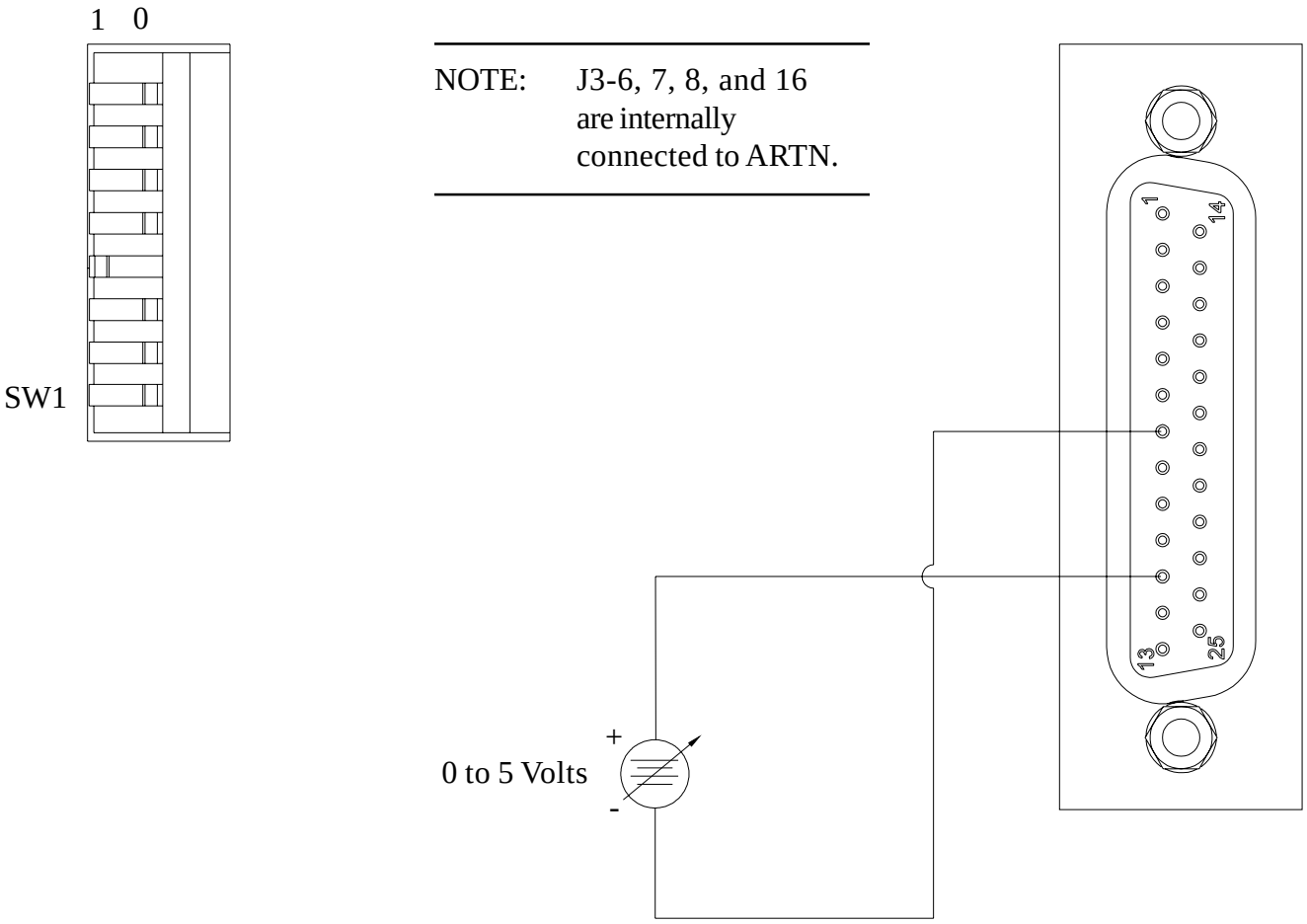


Remote Voltage Programming Using Voltage

Remotely Controlling Voltage To The J3 Current Channel

In this configuration, an external voltage source is used to control the power supply output current from zero to maximum current output. In this application, a **5 volt input** signal produces **maximum current output.**

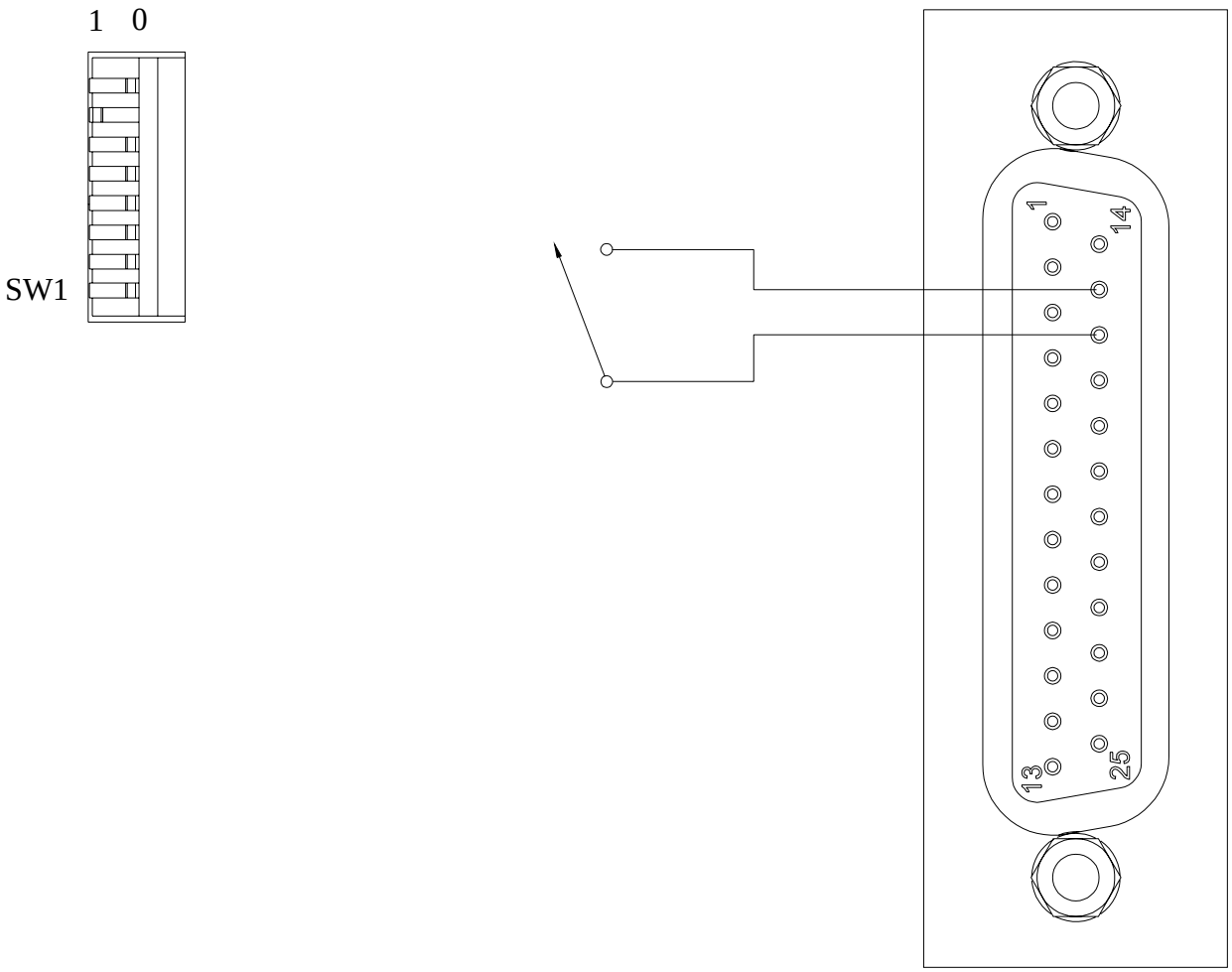
The DIP switch selections shown below disable the front panel current control knob. The front panel voltage control knob remains active.



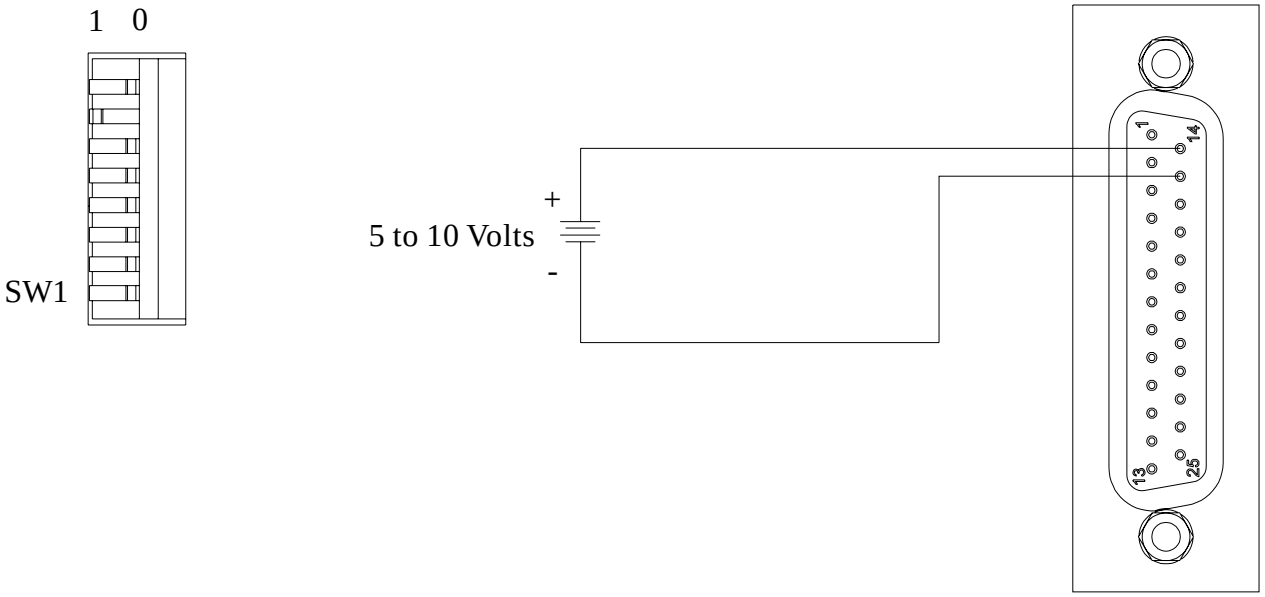
Remote Current Programming Using Zero to Five Volt DC Source

Remote Output On/Off Control

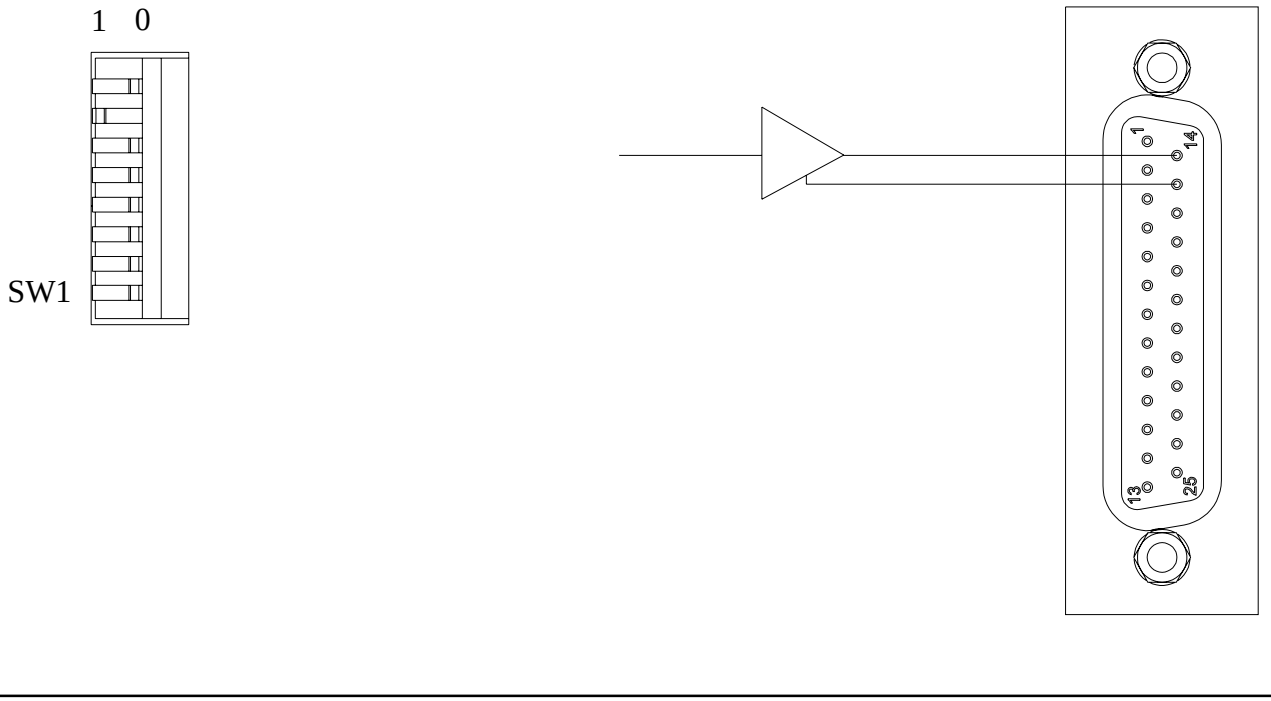
Remote On/Off control may be accomplished in one of three ways: a contact closure, an external isolated DC voltage, or a CMOS voltage source setting. The DIP switch settings shown below are used for all three configurations.



Remote On/Off Control by Contact Closure



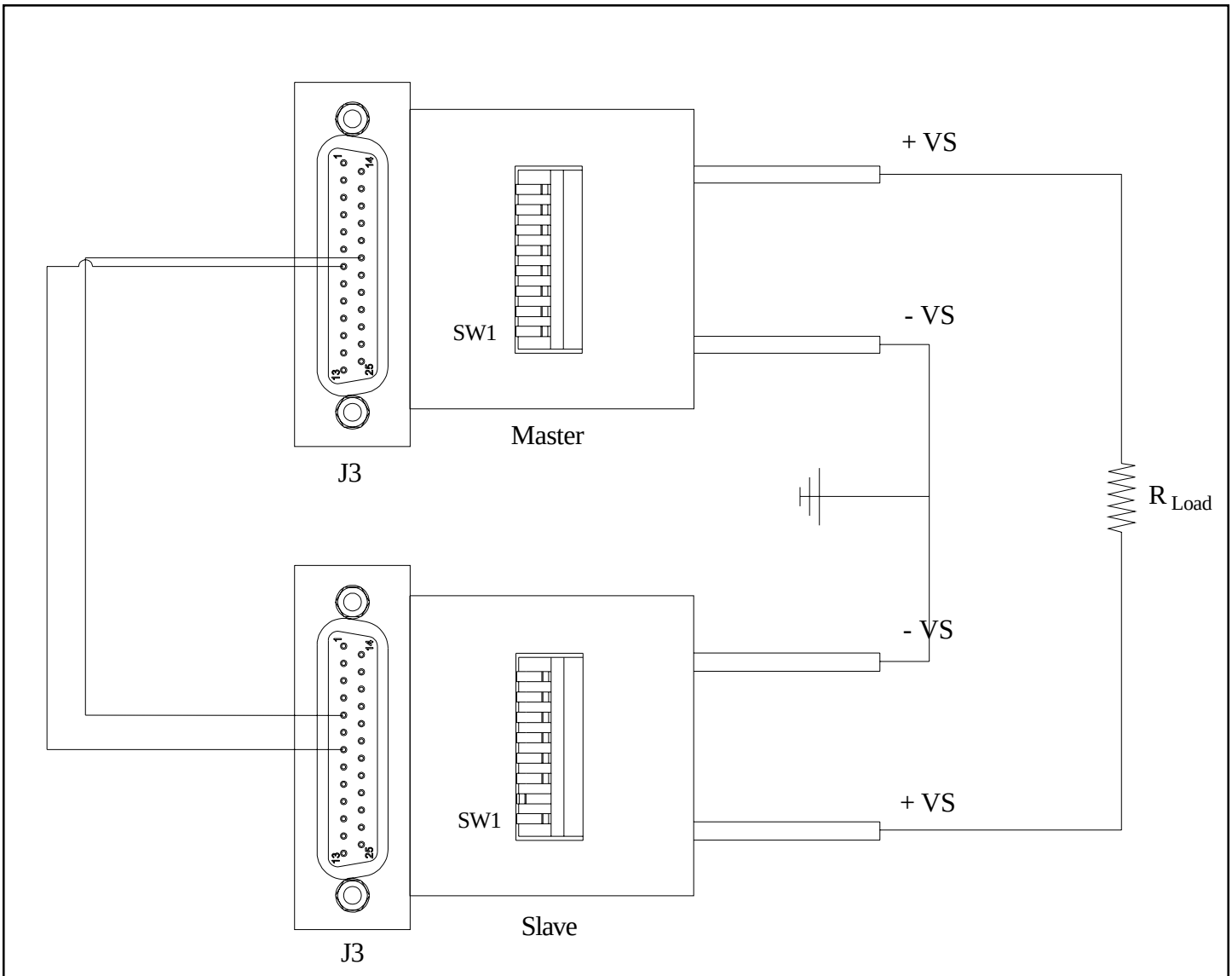
Remote On/Off Control Isolated DC Voltage Source



Remote On/Off Control Isolated CMOS Voltage Source

Auto Tracking Operation:

In this configuration, a master power supply controls the output voltage of a slave supply. An example is the positive and negative power supply configuration shown below. The output voltage of the negative supply is controlled by the front panel of the positive supply.



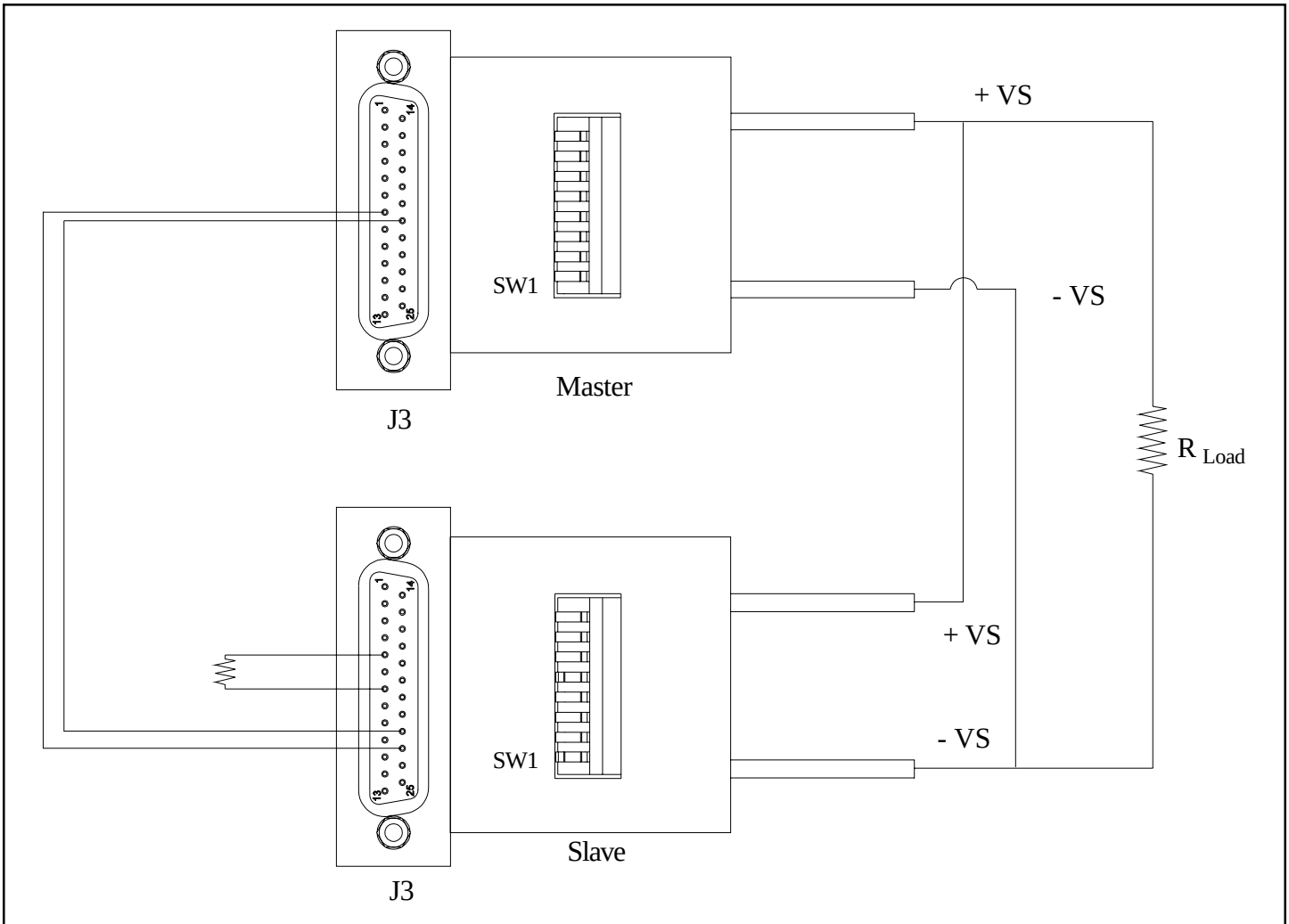
Auto Tracking Operation

Parellel Operation (Master Slave Configuration):

Parellel operation may be used to control up to five power supplies for increased power capability. In this configuration, the master power supply controls the output voltage and current. Current flow is shared among the power supplies by setting the slave supplies to current mode. The scaled DC current signal from the master power supply is used as a reference signal for each of the slave supplies. The illustration below shows the connections required between the master and slave units. Shielded cable is recommended when wiring this configuration.

To use a power supply in slave configuration, switch five (SW5) on the mode select DIP switch must be set to1. Additionally, each slave supply must also have switch one (SW1) set to1. The maximum output voltage for a slave supply should be set higher than the required output voltage.

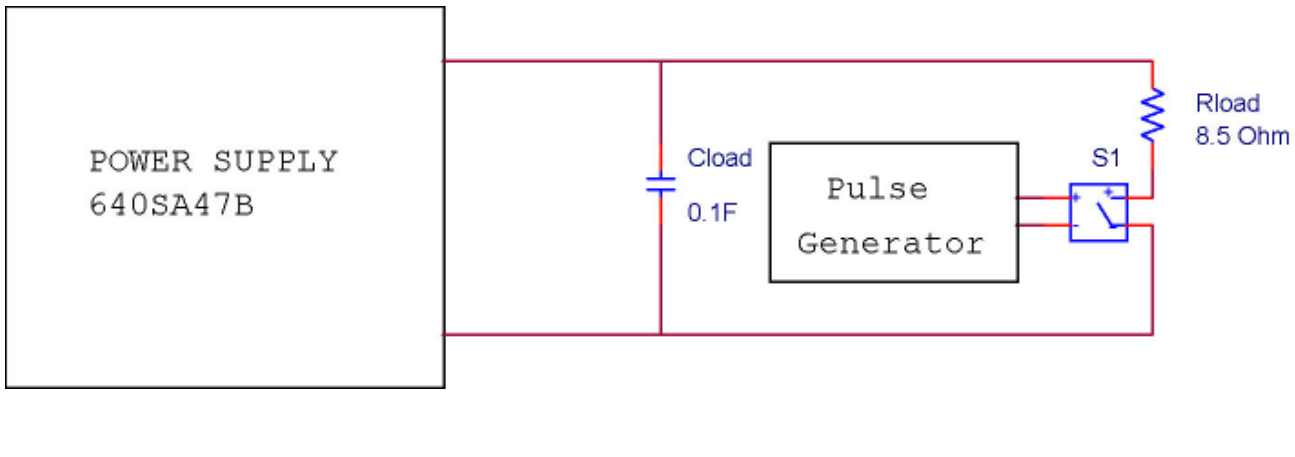
In the example below, each power supply in slave configuration is set for remote voltage programming by using a resistor between J3 pin 5 and J3 pin 7. The value of the resistor is chosen so that the slave voltage setting is higher than the maximum required output. This adds protection in the event that an open occurs in the interface cable. When the maximum voltage is the output rating of the power suply, the resistor is not required.



Parallel Operation

Dynamic Load Test Diagram (Special Testing)

When the power suply is tested according to the circuit and conditions shown below, it will perform to published specifications. When performing the dynamic load test, all components must the requirements contained in the illustration below.



Dynamic Load Test: Circuit Configuration

6400 Power Supply Block Diagram